

### Listing of Claims

1. **(Currently Amended)** A method for generating at least one error-corrected experiment profile of at least one experiment profile in a plurality of pairs of profiles  $\{A_m, C_m\}$ , where  $m = 1, 2, \dots, M$ , and  $M$  is the number of the pairs of profiles; and wherein, for each  $m \in \{1, 2, \dots, M\}$ ,  $A_m$  is an experiment profile, and  $C_m$  is a reference profile; and wherein  $\{A_m\}$  represents experiment profiles in said plurality of pairs of profiles  $\{A_m, C_m\}$  and  $\{C_m\}$  represents reference profiles in said plurality of pairs of profiles  $\{A_m, C_m\}$ , said method comprising:

(a) calculating, on a suitably programmed computer, an average reference profile  $\bar{C}$  of said plurality of reference profiles  $\{C_m\}$  where  $m = 1, 2, \dots, M$ ;

(b) determining, on a suitably programmed computer, for at least one profile pair  $\{A_m, C_m\}$  where  $m \in \{1, 2, \dots, M\}$  of said plurality of pairs of profiles  $\{A_m, C_m\}$  a differential reference profile,  $C_{diff}(m, k)$ , computed between  $C_m$  and  $\bar{C}$ , wherein said average reference profile  $\bar{C}$  comprises data set  $\{\bar{C}(k)\}$ ;

(c) via said differential reference profile determined for said profile pair, removing, on a suitably programmed computer, systematic cross-experiment error from an experiment profile  $A_m$  of said at least one profile pair  $\{A_m, C_m\}$  where  $m \in \{1, 2, \dots, M\}$  to generate a first error-corrected experiment profile  $A'_m$  for each  $m \in \{1, 2, \dots, M\}$ , wherein said experiment profile  $A_m$  comprises a first data set,  $\{A_m(k)\}$ , said reference profile  $C_m$  comprises a second data set, ~~said average reference profile  $\bar{C}$  comprises data set  $\{\bar{C}(k)\}$~~ , and said first error-corrected experiment profile  $A'_m$  comprises data set